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U.S. Department of the Interior • U.S. Geological Survey

# MINERAL INDUSTRY SURVEYS

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## CHROMIUM IN MAY 1997

Chromite consumption decreased slightly in May 1997 compared with the previous month's revised data, according to the U.S. Geological Survey. Net production of chromium ferroalloys and metal in May 1997 increased 9% compared with revised data for April 1997, and consumption of chromium ferroalloys and metal in May 1997 increased slightly compared with data for April 1997. Chromite stocks decreased slightly over the same period. At the April rate of consumption, chromium stocks represented 6 months of domestic supply. Chromium ferroalloys and metal stocks decreased slightly

compared with revised April 1997 data. At the May 1997 rate of consumption, chromium ferroalloys and metal stocks represented .9 months of domestic supply.

Included in this Mineral Industry Surveys are: U.S. consumption and stocks of chromite; U.S. net production, net shipments, and stocks of chromium materials; U.S. Government inventory; U.S. consumption by end use and consumers stocks for chromium ferroalloys and metal for May 1997; and foreign trade for April 1997.

TABLE 1  
U.S. SALIENT CHROMIUM STATISTICS 1/

(Metric tons, gross weight unless otherwise noted)

	1996	1997			
	Jan.-Dec.	Mar.	Apr.	May	Jan. - May
Production:					
Chromium ferroalloys and metal: 2/					
Net production:					
Gross weight	36,800	5,730 r/	5,270 r/	5,800	24,600
Chromium content	26,400	4,040 r/	3,480 r/	3,890	17,000
Net shipments	38,800	7,610 r/	4,750 r/	6,590	26,400
Stainless steel production 3/	1,920,000	(4/)	NA	NA	481,000 5/
Components of U.S. supply:					
Stainless steel scrap receipts	579,000	66,000	65,300	39,300	281,000
Imports for consumption					
Chromite ore	250,000	86,900	32,000	NA	160,000 6/
Chromium ferroalloys 7/	420,000	36,800	39,700	NA	112,000 6/
Chromium metals 8/	8,730 r/	846	892	NA	3,190 6/
Stainless steel	NA	NA	NA	NA	NA
Stainless steel scrap	47	NA	NA	NA	NA
Distribution of U.S. supply:					
Consumption:					
Chromite ore	282,000	29,400 r/	30,700 r/	30,400	138,000
Chromium ferroalloys & metals	289,000	28,900	30,300	31,100	152,000
Exports:					
Chromite ore	69,400	1,480	1,830	NA	10,800 6/
Chromium ferroalloys	15,800	841	1,060	NA	3,510 6/
Chromium metals	1,330	180	379	NA	762 6/
Stainless steel	NA	NA	NA	NA	NA
Stainless steel scrap	303	17	36	NA	99 6/
Stocks at end of period:					
Industry:					
Chromite ore:					
Chemical and metallurgical	165,000	155,000 r/	162,000 r/	159,000	XX
Refractory	7,890	9,200	8,900 r/	8,940	XX
Total	173,000	164,000 r/	171,000 r/	168,000	XX
Chromium ferroalloys and metal:					
Producer	6,450	4,980 r/	5,500 r/	4,710	XX
Consumer	24,400	21,000	21,600	21,800	XX
Government stockpile:					
Chromite ore	1,190,000	1,160,000	1,160,000	1,150,000	XX
Chromium ferroalloys	1,050,000	1,030,000	1,030,000	1,020,000	XX
Chromium metals	7,720	7,720	7,720	7,720	XX

r/ Revised. NA Not available. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes low- and high-carbon ferrochromium, chromium concentrates, ferrochromium, chromium metal, and other miscellaneous alloys.

3/ Data on stainless steel production from American Iron and Steel Institute, quarterly production of stainless and heat resisting raw steel.

4/ Not reported monthly.

5/ Includes data for January through March; April and May not available at time of publication.

6/ Includes data for January through April; May not available at time of publication.

7/ Includes high-, medium-, and low- ferrochromium and ferrochromium silicon.

8/ Includes waste and scrap and other.

TABLE 2  
U.S. CONSUMPTION, BY END USE, AND CONSUMER STOCKS OF  
CHROMIUM FERROALLOYS AND METAL IN MAY 1997 1/

(Metric tons, gross weight unless otherwise noted)

End use	Ferrochromium			Other	Total	Jan. through May total 2/
	Low-carbon	Medium-and high-carbon	Ferro-chromium silicon			
Steel:						
Carbon	356	427	10	5	798	3,260
Stainless and heat resisting	650	19,800	W	W	20,500	102,000
Full alloy	296	2,540	138	3	2,970	12,700
High-strength low-alloy and electric	193	W	657	--	850	4,480
Tool	W	395	W	W	395	1,660
Cast irons	W	169	W	W	169	502
Superalloys	195	574	--	269	1,040	3,900
Alloys:						
Welding materials 3/	--	W	--	6	6	55
Other alloys 4/	22	26	--	51	99	443
Miscellaneous and unspecified	175	192	3,830	64	4,260	22,300
Total: 5/ gross weight	1,890	24,100	4,630	398 6/	31,100	XX
Chromium content	1,270	15,100	1,670	345	18,400	XX
Stocks, May 31, 1997	1,630	19,100	952	198 7/	21,800	XX
Jan. through May: 2/						
Total	11,000	117,000	21,400	1,910 8/	XX	152,000
Chromium content	7,410	71,200	7,520	1,730	XX	87,800

W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified." XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes revised data from previous months.

3/ Includes structural and hard-facing materials.

4/ Includes magnetic, aluminum, copper, nickel, and other alloys.

5/ Includes estimates.

6/ Includes 293 tons of chromium metal.

7/ Includes 153 tons of chromium metal.

8/ Includes 1,530 tons of chromium metal.

TABLE 3  
U.S. GOVERNMENT STOCKPILE INVENTORY 1/ OF CHROMIUM MATERIALS 2/

(Metric tons)

Period	Chromite ore			Chromium ferroalloys			Chromium metal	
	Chemical	Metal-lurgical	Refractory	High-carbon ferro-chromium	Low-carbon ferro-chromium	Ferro-chromium silicon	Alumino-thermic	Electrolytic
1996:								
May	220,000	694,000	328,000	738,000	283,000	52,900	2,670	5,020
June	220,000	658,000	327,000	738,000	283,000	52,900	2,670	5,020
July	220,000	655,000	322,000	738,000	283,000	52,900	2,670	5,020
August	220,000	655,000	322,000	738,000	283,000	52,900	2,670	5,020
September	220,000	647,000	322,000	734,000	283,000	52,700	2,670	5,050
October	220,000	645,000	322,000	732,000	283,000	52,700	2,670	5,050
November	220,000	645,000	322,000	725,000	283,000	52,700	2,670	5,050
December	220,000	645,000	322,000	718,000	283,000	52,700	2,670	5,050
1997:								
January	220,000	637,000	322,000	704,000	283,000	52,700	2,670	5,050
February	220,000	633,000	322,000	695,000	283,000	52,700	2,670	5,050
March	220,000	627,000	318,000	695,000	283,000	52,700	2,670	5,050
April	220,000	626,000	318,000	695,000	283,000	52,700	2,670	5,050
May	217,000	620,000	312,000	689,000	283,000	52,700	2,670	5,050

1/ Includes specification and non-specification grade materials and materials set aside for disposal but not yet shipped.

2/ Data are rounded to three significant digits.

Source: Defense National Stockpile Center.

TABLE 4  
U.S. EXPORTS OF CHROMITE ORE, CHROMIUM FERROALLOYS AND METAL 1/

Period	Chromite ore		Chromium ferroalloys 2/			Chromium metal 3/	
	Gross weight (metric tons)	Value (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value (thousands)	Gross weight (metric tons)	Value (thousands)
1996:							
April	17,100	\$2,280	734	444	\$843	165	\$1,530
May	1,730	1,160	472	288	597	76	863
June	37,900	4,270	490	291	583	143	1,110
July	1,920	568	1,320	797	1,640	214	1,820
August	1,060	564	676	411	694	63	717
September	614	132	955	554	912	137	772
October	1,310	152	1,100	680	956	97	1,010
November	1,390	486	1,450	852	1,350	93	825
December	1,060	214	6,200	3,750	3,140	89	1,090
Jan.-Dec.	69,400	11,100	15,800	9,520	14,000	1,330	12,800
1997:							
January	1,540	364	635	405	718	60	600
February	5,930	977	975	609	1,160	142	1,120
March	1,480	487	841	527	939	180	1,260
April	1,830	376	1,060	561	1,300	379	2,610
Total	10,800	2,200	3,510	2,100	4,110	762	5,590

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes low-, medium-, and high-carbon ferrochromium, and ferrochromium-silicon.

3/ Includes wrought and unwrought and waste and scrap.

Source: Bureau of the Census.

TABLE 5  
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE,  
FERROCHROMIUM, AND CHROMIUM METAL 1/

(Metric tons)

	1996	1997			
	Jan.-Dec.	February	March	April	Jan.-Apr.
Chromite ore:					
Not more than 40% chromic oxide:					
Gross weight	8,030	--	40	--	5,820
Chromic oxide content	2,650	--	16	--	1,920
More than 40% but less than 46% chromic oxide:					
Gross weight	25,400	--	--	14,200	14,200
Chromic oxide content	11,100	--	--	6,550	6,550
46% or more chromic oxide:					
Gross weight	217,000	3,030	86,900	17,700	140,000
Chromic oxide content	102,000	1,670	40,700	8,180	65,400
Total, all grades:					
Gross weight	250,000	3,030	86,900	32,000	160,000
Chromic oxide content	116,000	1,670	40,800	14,700	73,800
Ferrochromium:					
Low-carbon: 2/					
Gross weight	60,700	3,860	7,380	6,530	23,000
Chromium content	38,400	2,550	4,620	4,380	15,000
Medium-carbon: 3/					
Gross weight	36	--	--	--	17
Chromium content	23	--	--	--	11
High-carbon: 4/					
Gross weight	359,000	15 r/	29,400	33,200	88,900
Chromium content	207,000	9 r/	14,000	20,400	50,700
Total, all grades					
Gross weight	420,000	3,870 r/	36,800	39,700	112,000
Chromium content	246,000	2,560 r/	18,600	24,800	65,700
Chromium metal:					
Other than waste and scrap	8,670	918	846	892	3,190
Waste and scrap	67	2	--	--	3
Total, all grades	8,730 r/	921	846	892	3,190

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Ferrochromium containing not more than 3% carbon.

3/ Ferrochromium containing more than 3% carbon but not more than 4% carbon.

4/ Ferrochromium containing more than 4% carbon.

Source: Bureau of the Census.

TABLE 6  
U.S. IMPORTS FOR CONSUMPTION OF CHROMITE ORE IN APRIL 1997,  
BY GRADE AND BY COUNTRY 1/

Country	April			January-April		
	Gross weight (metric tons)	Cr <sub>2</sub> O <sub>3</sub> (metric tons)	Value 2/ (thousands)	Gross weight (metric tons)	Cr <sub>2</sub> O <sub>3</sub> (metric tons)	Value 2/ (thousands)
Not more than 40% chromic oxide:						
Philippines	--	--	--	5,780	1,910	\$1,050
South Africa	--	--	--	40	16	6
Total	--	--	--	5,820	1,920	1,060
More than 40% but less than 46% chromic oxide:						
South Africa	14,200	6,550	\$1,070	14,200	6,550	1,070
46% or more chromic oxide:						
Canada	--	--	--	13	6	5
Russia	--	--	--	22	261	117
South Africa	17,700	8,180	1,360	140,000	65,100	8,860
Total	17,700	8,180	1,360	140,000	65,400	8,980
Total, all grades:						
Canada	--	--	--	13	6	5
Philippines	--	--	--	5,780	1,910	1,050
Russia	--	--	--	22	261	117
South Africa	32,000	14,700	2,430	154,000	71,700	9,940
Total	32,000	14,700	2,430	160,000	73,800	11,100

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance and other charges incurred in bringing the merchandise to the United States.

Source: Bureau of the Census.

TABLE 7  
U.S. IMPORTS FOR CONSUMPTION OF FERROCHROMIUM IN APRIL 1997,  
BY GRADE AND BY COUNTRY 1/

Country	April			January-April		
	Gross weight (metric tons)	Chromium content (metric tons)	Value 2/ (thousands)	Gross weight (metric tons)	Chromium content (metric tons)	Value 2/ (thousands)
High-carbon ferrochromium: 3/						
Canada	--	--	--	20	9	\$2
China	3,620	2,190	\$2,210	3,620	2,190	2,210
France	--	--	--	(4/)	(4/)	(4/)
India	770	488	448	1,540	973	847
Kazakstan	--	--	--	130	101	165
Russia	5,210	1,240	3,550	9,870	3,850	7,790
South Africa	9,700	5,010	3,670	29,000	12,500	11,100
Turkey	7,560	7,570	7,040	21,100	16,000	13,300
United Kingdom	--	--	--	6	4	10
Zimbabwe	6,320	3,930	3,750	23,700	15,000	13,800
Total	33,200	20,400	20,700	88,900	50,700	49,300
Medium-carbon ferrochromium: 5/						
Switzerland	--	--	--	17	11	16
Low-carbon ferrochromium: 6/						
China	835	545	981	1,650	1,070	2,010
Germany	525	368	1,580	3,450	2,410	8,880
Japan	164	56	179	248	90	438
Kazakstan	841	547	972	841	547	972
Russia	3,780	2,600	4,600	10,600	7,140	13,900
South Africa	--	--	--	4,520	2,600	4,190
Turkey	100	73	164	100	73	164
Zimbabwe	280	191	314	1,560	1,040	1,890
Total	6,530	4,380	8,790	23,000	15,000	32,500
Total, all grades:						
Canada	--	--	--	20	9	2
China	4,460	2,740	3,190	5,270	3,260	4,210
France	--	--	--	(4/)	(4/)	(4/)
Germany	525	368	1,580	3,450	2,410	8,880
India	770	488	448	1,540	973	847
Japan	164	56	179	248	90	438
Kazakstan	841	547	972	971	647	1,140
Russia	9,000	3,840	8,150	20,500	11,000	21,700
South Africa	9,700	5,010	3,670	33,500	15,100	15,300
Switzerland	--	--	--	17	11	16
Turkey	7,660	7,650	7,210	21,200	16,100	13,500
United Kingdom	--	--	--	6	4	10
Zimbabwe	6,600	4,120	4,060	25,200	16,000	15,700
Total	39,700	24,800	29,500	112,000	65,700	81,800

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance and other charges incurred in bringing the merchandise to the United States.

3/ Ferrochromium containing more than 4% carbon.

4/ Revised to zero.

5/ Ferrochromium containing more than 3% but not more than 4% carbon.

6/ Ferrochromium containing not more than 3% carbon.

Source: Bureau of the Census.

TABLE 8  
U.S. IMPORTS FOR CONSUMPTION OF CHROMIUM METAL IN  
APRIL 1997, BY GRADE AND BY COUNTRY 1/

Country	April		January-April	
	Gross weight (metric tons)	Value 2/ (thousands)	Gross weight (metric tons)	Value 2/ (thousands)
Waste and scrap:				
Canada	--	--	2	\$8
Mexico	--	--	(3/)	2
Total	--	--	3	10
Other than waste and scrap:				
China	222	\$1,290	793	4,610
France	221	1,850	608	5,040
Germany	(3/)	5	19	231
Hong Kong	34	203	85	505
Italy	1	1	1	9
Japan	4	432	107	2,140
Russia	267	1,710	1,040	6,660
Spain	--	--	3	3
Switzerland	--	--	(3/)	22
Taiwan	--	--	8	29
United Kingdom	143	1,170	523	4,540
Venezuela	(3/)	2	(3/)	2
Total	892	6,660	3,190	23,800
Total, all grades:				
Canada	--	--	2	8
China	222	1,290	793	4,600
France	221	1,850	608	5,040
Germany	(3/)	5	19	231
Hong Kong	34	203	85	505
Italy	1	1	1	9
Japan	4	432	107	2,140
Mexico	--	--	(3/)	2
Russia	267	1,710	1,040	6,660
Spain	--	--	3	3
Switzerland	--	--	(3/)	22
Taiwan	--	--	8	29
United Kingdom	143	1,170	523	4,540
Venezuela	(3/)	2	(3/)	2
Total	892	6,660	3,190	23,800

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Customs import value generally represents a value in the foreign country and therefore excludes U.S. import duties, freight, insurance and other charges incurred in bringing the merchandise into the United States.

3/ Less than 1/2 unit.

Source: Bureau of the Census.